

UK Patent Application GB 2 150 728 A

(43) Application published 3 Jul 1985

(21) Application No 8428511

(22) Date of filing 12 Nov 1984

(30) Priority data

(31) 3342483

(32) 24 Nov 1983 (33) DE

(51) INT CL<sup>1</sup>  
G09F 23/06 27/00

(52) Domestic classification  
G5C DBX

(56) Documents cited  
None

(71) Applicant

Purfürst Elektrotechnik GmbH (FR Germany),  
22 Opelstrasse, 3004 Isernhagen 1, Federal Republic  
of Germany

(58) Field of search  
G5C

(72) Inventor

Horst Martens

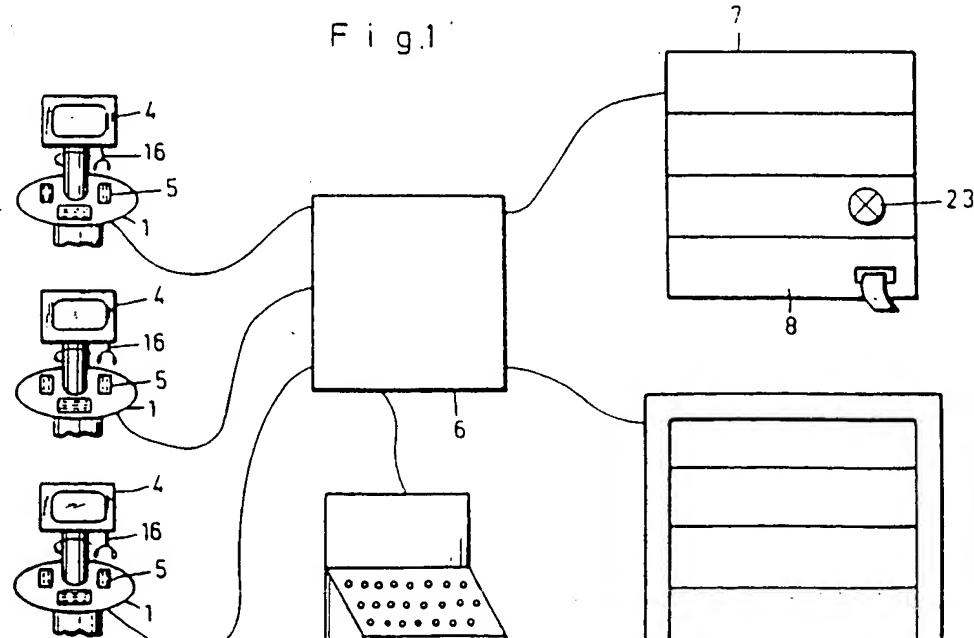
(74) Agent and/or Address for Service

Potts Kerr & Co.  
15 Hamilton Square, Birkenhead, Merseyside  
L41 6BR

(54) A client-actuated display and ordering apparatus for the catering industry

(57) An apparatus for enabling the inputting, processing and dissemination of instructions to staff and clients in the catering industry and optionally for entertaining the clients. Keyboards (5) are provided for inputting viewing and ordering instructions, together with means for processing the input instruction. The processing means include control means (6) for outputting control signals to indicator means (7) disposed in at least one staff work area of a catering establishment and to visual display units (4) so that the viewing and ordering instructions may be viewed by the client. The client may view pictures of entire meals or of items on a menu by utilising the keyboards (5) and may then order the desired meal or items using the same keyboard (5).

Fig.1

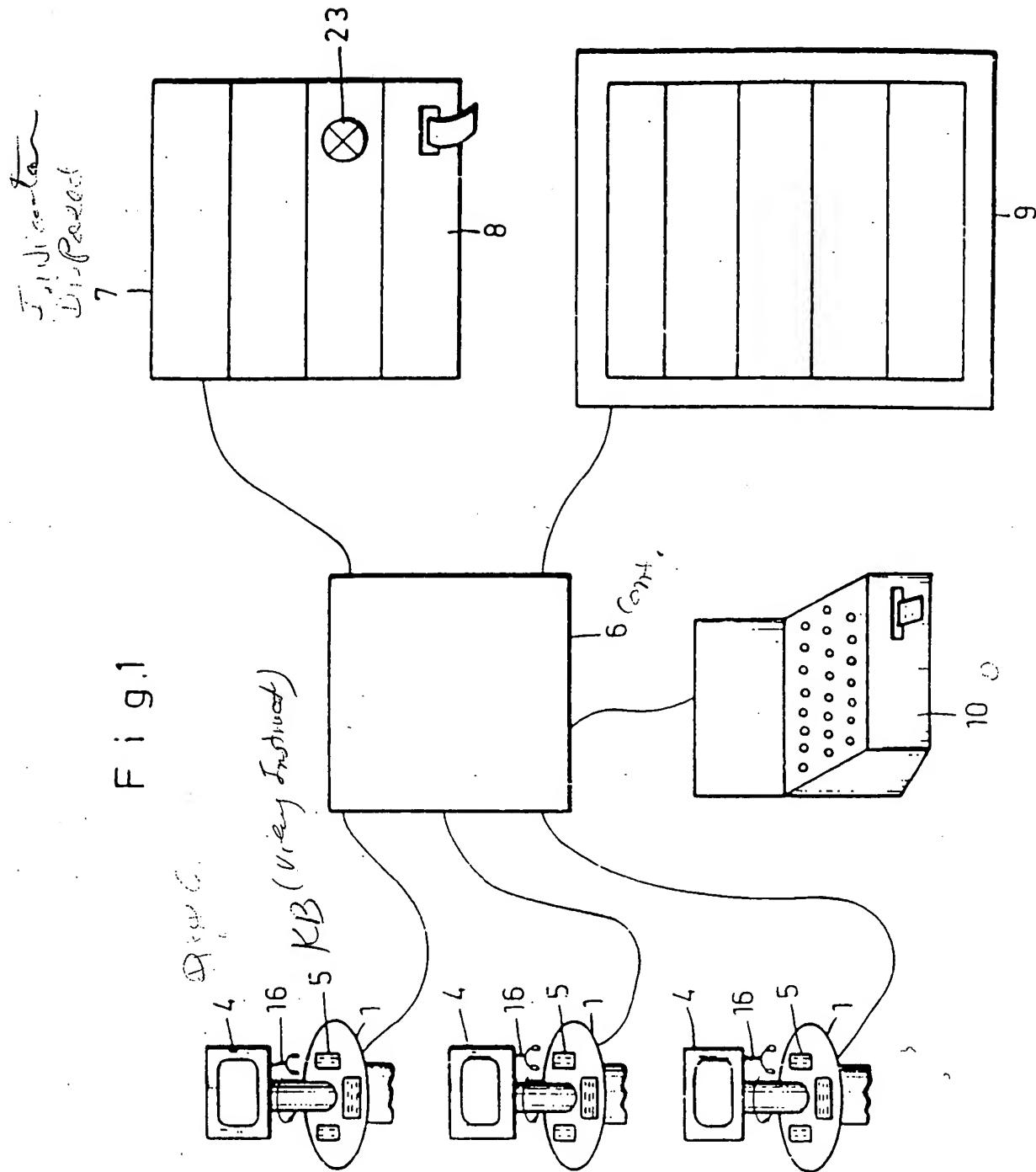


GB 2 150 728

BEST AVAILABLE COPY

2150728

1/4



2150728

E = 0.2

24

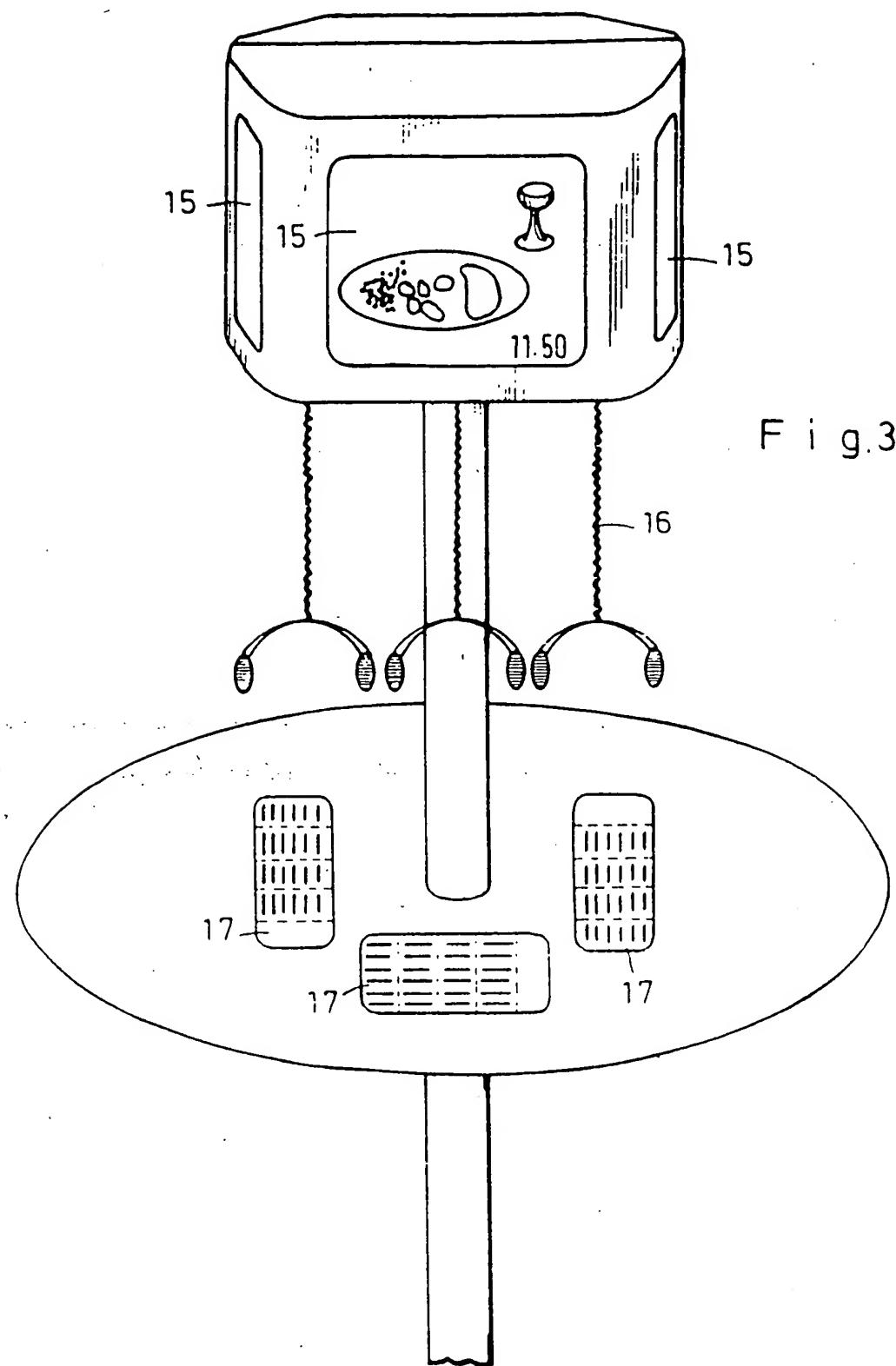
2

21

1

2150728

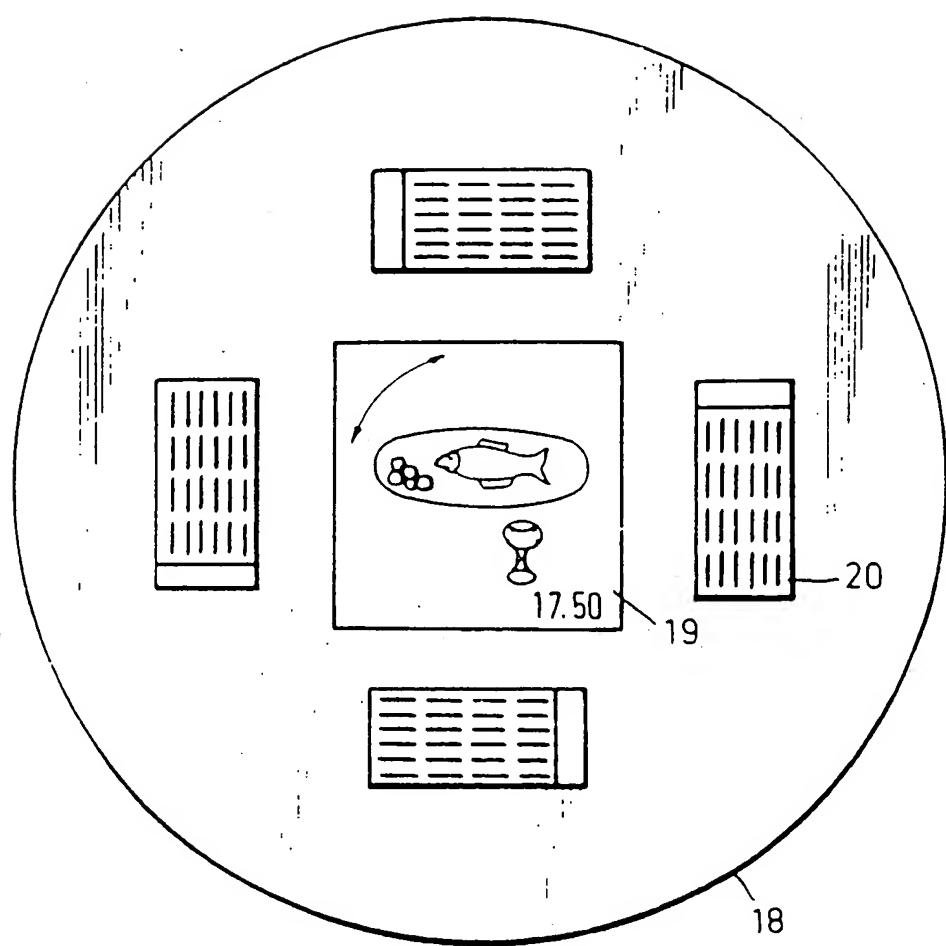
3/4



2150728

-14

Fig.4



## SPECIFICATION

### A client-actuated display and ordering apparatus for the catering industry

#### FIELD OF THE INVENTION

The present invention relates to a client-actuated display and ordering apparatus for the catering industry.

#### BACKGROUND OF THE INVENTION AND DISCUSSION OF PRIOR ART.

German Offenlegungsschrift No. 3 043 057 discloses an electronic ordering system for use in the hotel and catering industries. This system comprises a plurality of keyboards which are disposed on the tables in the restaurant or cafe. Such keyboards are used for ordering items from a menu and are connected to a cash register and to additional indicators.

The keyboards, however, merely have keys or push-buttons having numbers printed thereon, the numbers corresponding to various dishes on the menu. Accordingly, a menu must be provided, the dishes thereon having appropriate reference numerals allocated thereto to enable the diner to ascertain the numerical code for the dish or dishes which he wishes to order. Such apparatuses have not, however, been particularly successful because they are both complicated and somewhat unsatisfactory to operate.

#### OBJECTS OF THE INVENTION

The present invention seeks to provide an apparatus which is generally of the above-described type but which is simpler to operate. More particularly, the present invention seeks to provide an apparatus which enables a diner to be given detailed information about items on a menu without the need for a knowledgeable waiter being present or for an excessively long printed menu to be available and, subsequently, for the diner to order his selections. By so doing, the possibilities of erroneous orders being made because the diner is unfamiliar with the names of dishes or drinks should be avoided. Moreover, the present invention seeks to provide an apparatus in which the choices offered to the diner are presented in such a manner as to stimulate his appetite so that he has the pleasure of anticipating the dishes he has ordered and adopts a positive attitude towards the ordering system.

#### SUMMARY OF THE INVENTION

According to the present invention, there is provided an apparatus for enabling the inputting of instructions, processing of the instruc-

least one dining area for enabling the input of viewing and ordering instructions, means for processing the viewing and ordering instructions from the keyboards, the processing

means including control means for outputting control signals to indicating means disposed in at least one staff work area in a catering establishment and to visual display units located in the at least one dining area to enable the viewing and ordering instructions to be displayed on the visual display units, the inputting of instructions permitting coloured illustrations of menu items to be displayed jointly or severally, selected means with their names, descriptions and prices to be displayed and permitting ordering of at least one item or menu by the diner and, optionally, providing entertainment for the diner. In such an apparatus, the diner is given very detailed information about dishes and/or drinks offered by the restaurant because the colour visual display units are disposed in the dining area, usually on the dining tables. These visual display units show coloured, true-to-life illustrations of the dishes and the names and prices thereof. The diner can therefore see the size of portion being offered, the items, if any, which accompany it and the appearance of the dishes. By pressing the appropriate key on, for example, a sensor keyboard, he can also obtain, on the visual display unit, a colour photograph showing all the dishes in one group of dishes, for example fish dishes, on offer and can select a dish after making comparisons.

This arrangement minimises the possibility of ordering errors being made as a result of the dishes being given ambiguous or unclear names

The dishes may be ordered, in any suitable manner such as, for example, by pressing the appropriate sensor key for that dish or drink three or more times or by pressing a specific "order" key and the order is confirmed by the restaurant staff in a work area of the restaurant causing a colour photograph of the dish, together with its cost, to appear on the visual display unit in front of the diner.

Once the order has been given, the diner can be linked to an entertainment unit if he presses further appropriate keys on the keyboard and he can obtain, on his visual display unit, video films television programmes, teletext information, local or regional information, stock exchange prices or video-games.

Preferably, the apparatus additionally comprises a cash register which is connected to the keyboards. In such an arrangement, it is desirable if the indicating means in the staff work area is connected to an acoustic or optical signal transmitter and to a confirma-

which the indicating means are connected. This ensures that the diner has operated the apparatus correctly.

The keyboards are advantageously sensor

5 pads. This permits the keyboards to be inset into the table top so that it is easy to keep clean. The sensor pads may be disposed in visible manner beneath the level of the top surface of the table but, in a preferred embodiment, the visual display units and the sensor pads are so inset as to form a flat surface which is flush with the remaining surface of the table.

In advantageous embodiments, the visual display units are either disposed on columns projecting upwardly from the tables or are suspended from the ceiling at such a height that the diner sitting therebeneath can view them. In such a case, it is possible to adapt 10 the visual display units so that they slope downwardly towards the viewer.

In such an arrangement of the visual display units, the sensor pads or keyboards may be inset into the dining tables and form a flat 15 surface which is flush with the table top in such a manner that, when the sensor pads or keyboard are not being used, the entire table top may be used for dining purposes.

In a further desirable embodiment, there are 20 provided a plurality of visual display units mounted on each column, which units are equiangularly spaced apart from one another, each visual display unit having a keyboard associated therewith on the table. In such an 25 arrangement, a plurality of diners at one table can order meals or dishes simultaneously or, if there are several diners at one table, one or more diners can enjoy an entertainment programme on his or her own without disturbing, 30 or being disturbed by, other diners. In such an arrangement, it is advantageous if the apparatus further includes a set of headphones associated with each colour visual display unit and each keyboard.

40 45 If the diner wishes to be provided with an additional explanation or commentary of the dishes or drinks shown on the visual display unit, the headphones can also be used for this purpose. An explanatory text is stored in a 50 memory for each dish and may be obtained in addition to the picture on the display unit.

In order to permit the charges for the ordered and received dishes to be calculated correctly, receipt printers may be associated 55 both with the indicator located in the working area of the restaurant and with the cash register, so that a receipt can be issued from the work area, together with the appropriate dish, and be handed to the diner, whilst the 60 receipt at the cash register can be used as a means of checking that payment for the dish has been made.

#### BRIEF DESCRIPTION OF THE DRAWINGS

65 The invention will be further described, by

way of example, with reference to the accompanying drawings, in which:

Fig. 1 is a schematic plan view of an ordering system in accordance with the present invention:

Fig. 2 shows one embodiment of a sensor-type keyboard forming part of the system of the present invention:

Fig. 3 shows a restaurant table having a plurality of visual display units, sensor boards and headphones, all of which form part of an ordering system in accordance with the present invention; and

Fig. 4 is a plan view of a restaurant table 80 having a visual display unit and sensor key-boards set into the table top.

Referring firstly to Figure 1, a number of sensor keyboards 5 are disposed on each of a plurality of restaurant tables 1, 2 and 3.

Visual display units 4, electrically or electronically connected to the keyboards 5, are mounted on columns disposed on the tables 1, 2 and 3, such visual display unit 4 being rotatable through 360°.

90 The visual display units 4 and sensor keyboards 5 are electrically connected to a control unit 6 which, in turn, is connected to an order indication and confirmation unit 7 disposed in a work area of the restaurant, such as an office or the kitchen.

A receipt printer 8 is also connected to the indicator 7. An entertainment unit 9 and a cash register 10 are also connected to the control unit 6.

100 One embodiment of a sensor keyboard 5 is shown in greater detail in Fig. 2. In such arrangement, the sensor keyboard 5 is divided into a number of sections. The two major sections are an entertainment section 11 and 105 a meal ordering section 12. The keyboard has an on/off button or key 13 and a correction button or key 14 for correcting any incorrectly given orders.

Fig. 3 illustrates a table having a plurality of 110 visual display units 15 disposed on a column, the units 15 being angularly offset relative to one another by either 90° or 120°. Associated with visual display units 15 are headphones 16 and sensor keyboards 17.

115 Fig. 4 shows a table 18 having a visual display unit 19 and a plurality of sensor boards 20, the visual display unit and the sensor boards being inset into, and forming a flat surface flush with, the table top so that 120 the entire surface of the table may be used for serving meals. The visual display unit 19 is to be rotatable so that it can be pivoted towards the diner whilst he makes a selection from the menu.

125 The mode of operation of such a system will now be described. Reference will first be made to Fig. 2. If a diner presses, for example, the key 21, starter No. 3 appears on the visual display unit as a colour photograph, 130 together with its name and price. By pressing

Detailed Description

the key 22, all of the starters Nos. 1 to 5 which are available appear on the visual display unit simultaneously so that a comparison therebetween may be made.

5 Similarly, each of the dishes in any category, such as the starters, may be viewed individually as a colour photograph on the visual display unit by pressing the appropriate key. If desired, a commentary on the items 10 available may be provided and can be heard by the diner, at the same time as the photograph is shown, if the headphones 16 are employed. The diner then proceeds, at will, to any of the other sections shown in Fig. 2 and, 15 by so doing, can order the selection of dishes which he desires.

The ordering is effected by any suitable electrical sequence, such as by the diner pressing the appropriate menu sensor key 20 three times. The order is then confirmed on the diner's visual display unit 4 by the indicator 7 by a member of the restaurant staff pressing the confirmation button 23. The receipt printer 8 and the cash register 24 simultaneously receive a switching command, 25 whereby a receipt for further processing of the order is produced for the serving staff of the restaurant and a bill for the diner is also produced.

30 After the required dishes and, if desired, drinks have been ordered, a video film or an alternative form of entertainment may be provided on the diner's visual display unit by the diner simply pressing one of the appropriate 35 keys 24 in the section 11.

The advantages of the ordering and entertainment system according to the present invention reside in the simple manner in which meals and drinks can be ordered. Since the 40 diner has a coloured illustration of the dishes offered on the visual display unit in front of him, there should be no possibility of any error and misunderstandings occurring with his order. Because of the pictorial illustration 45 of the dishes and menus, and also by comparing his choice with other items in that particular group, a diner can decide on a specific dish in a considerably easier manner because he is given a true-to-life illustration of the dish 50 and can ascertain for himself the size of portion, the accompanying items, the price and any other appropriate information.

Moreover, utilising the system of the present invention there is no longer a need for a 55 waiter or waitress to take an order. In the past, a qualified waiter or waitress was needed to take orders, such person needing to be capable of giving information concerning all of the items on the menu. However, such a 60 person is now not required. Auxiliary, mainly unskilled, staff can simply be employed to

sensor keys, the diner can also be offered many full meal or part-meal alternatives, including aperitifs, starters, a main course and a dessert which he can become acquainted with simply by viewing a suitable coloured illustration on the visual display unit and, if appropriate, an audio commentary thereon through the headphones.

Since the order is also confirmed by a pictorial illustration of the order on the diner's visual display unit, mistakes in ordering need not and should not be made.

The order is printed in full on the receipt which is issued by the receipt printer when the order is confirmed. This can be handed to the diner when the meal or dish is served so that the diner therefore has confirmation of his order and an indication of the price to be paid.

85 Once the ordering procedure has been concluded, the diner can press one or more sensor keys linked to the entertainment unit. For example, he or she can obtain the latest news items or stock exchange prices. Short 90 entertainment films or even video-games may be stored in the entertainment unit memory or public television programmes or the like may be viewed.

95 Although the apparatus is described above as being used in a restaurant, it will be readily apparent that it can also be used in hospitals, schools and the like. Moreover, the visual display units and keyboards could be located in normal homes, in which case a meal or dish ordered utilising the apparatus of the present invention would be delivered at a pre-arranged time.

#### CLAIMS

100 1. An apparatus for enabling the inputting of instructions, processing of the instructions and disseminating the instructions to staff and clients in the catering industry and optionally for entertaining the clients comprising a plurality of keyboards disposed in at least one dining area for enabling the input of viewing and ordering instructions, means for processing the viewing and ordering instructions from the keyboards, the processing means including control means for outputting control signals to indicating means disposed in at least one staff work area in a catering establishment and to visual display units located in the at least one dining area to enable the viewing and ordering instructions to be displayed on the visual display units, the inputting of instructions permitting coloured illustrations of menu items to be displayed jointly or severally, selected menus with their names, descriptions and prices to be displayed and permitting ordering of at least one item or

105

110

115

120

125

information unit connected to the visual display units through the control means.

3. An apparatus as claimed in claim 1 or 2, additionally comprising a cash register connected to the keyboards.

4. An apparatus as claimed in claim 3 wherein the indicating means in the staff work area is connected to an acoustic or optical signal transmitter and to a confirmation key,

10 actuation of the key providing a confirmation check on the visual display units in the dining areas, the cash register having a visual display unit associated therewith to which the indicating means are connected.

15 5. An apparatus as claimed in any preceding claim, wherein the keyboards are sensor key pads.

6. An apparatus as claimed in any preceding claim, wherein the visual display units and 20 the keyboards are inset into dining tables and form a flat surface flush with the remaining surface of the table, the visual display units being rotatable through 360°.

7. An apparatus as claimed in any one of 25 claims 1 to 5, wherein the visual display units are disposed above the dining area on columns projecting upwardly from said tables or are suspended from the ceiling of the catering establishment, the units being disposed at a 30 height which permits the clients to view them, the visual display units being inclined downwardly towards the client and being rotatable through 360°, the keyboards for operating the visual display units being inset into the table

35 top so as to form a flat surface which is flush with the remainder of the table top.

8. An apparatus as claimed in claim 7, wherein a plurality of visual display units are mounted on each column and are equiangularly spaced apart from one another around 40 said column, each visual display unit having a keyboard associated therewith on the table.

9. An apparatus as claimed in any preceding claim additionally including a set of headphones associated with each colour visual 45 display unit and each keyboard.

10. An apparatus as claimed in any preceding claim, wherein each item and menu illustrated on the colour visual display units has 50 an audio-commentary associated therewith, the commentary being delivered through headphones or loudspeakers and being delivered by the actuation of a key on the keyboard.

55 11. An apparatus as claimed in claim 2, wherein the entertainment unit is controlled by keys on the keyboards in the dining area and has stored therein entertainment selected from publicly and privately available television 60 programmes, stored entertainment programmes, information programmes and news programmes.

12. An apparatus as claimed in claim 4 65 additionally comprising a receipt printer, said receipt printer being associated with the indi-

cating means in the staff work area of the catering establishment and with the cash register.

70 13. An apparatus as claimed in claim 1 constructed and arranged to operate substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

Printed in the United Kingdom for  
Her Majesty's Stationery Office. Dd 8818935. 1985. 4235  
Published at The Patent Office. 25 Southampton Buildings.  
London. WC2A 1AY. from which copies may be obtained

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- BLACK BORDERS**
- IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- FADED TEXT OR DRAWING**
- BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- SKEWED/SLANTED IMAGES**
- COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- GRAY SCALE DOCUMENTS**
- LINES OR MARKS ON ORIGINAL DOCUMENT**
- REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**